

Savannah Gramze, M.Sc.

✉ savannahgramze@ufl.edu

🐙 SpacialTree

🌐 <https://spacialtree.github.io/>

🆔 0000-0002-1313-429X

Education

- 2023 – now 📖 **Ph.D., University of Florida** Astronomy.
Thesis: *Galactic Center Structure and Dynamics*. Advisor: Adam Ginsburg
- 2021 – 2023 📖 **M.Sc. Astronomy, University of Florida**.
Thesis: *Evidence of a Cloud-Cloud Collision from Overshooting Gas in the Galactic Center*.
- 2017 – 2021 📖 **B.Sc. Astronomy, University of Arizona** cum laude.
Thesis: *Colliding Clouds in the Milky Way's Central Bar*.

Employment

- 2022 – now 📖 **Research Assistant**. Astronomy Department, College of Liberal Arts and Sciences, University of Florida.
- 2021 – 2022 📖 **Teaching Assistant**. Astronomy Department, College of Liberal Arts and Sciences, University of Florida.
- Summer 2020 📖 **Summer REU Student** National Radio Astronomy Observatory
Socorro, New Mexico.
- Summer 2019 📖 **Summer REU Student** National Radio Astronomy Observatory
Socorro, New Mexico.

Awards and Achievements

- 2026 📖 **Graduate Student Travel Award**, University of Florida.
- 2025 📖 **Graduate Student Travel Award**, University of Florida.
- 2022 📖 **Graduate Student Teaching Award**, University of Florida.
- 2020 📖 **Galileo Circle Scholar**, University of Arizona.
📖 **NSF Research Experiences for Undergraduates**,
National Radio Astronomical Observatory, virtual.
- 2019 📖 **NASA Space Grant**, University of Arizona.
📖 **NSF Research Experiences for Undergraduates**,
National Radio Astronomical Observatory, Socorro, New Mexico.
- 2017-2021 📖 **Dean's List**, University of Arizona.

Research Publications

- 23 Cara Battersby, Miriam G. Santa-Maria, Dani Lipman, Dylan M. Paré, Rachel R. Lee, Pablo García, Izaskun Jiménez-Serra, Xing Pan, Daniel L. Walker, Jack Sullivan, Danya Alboslan, H Perry Hatchfield, Yue Hu, Alex Lazarian, Jennifer Wallace, Qizhou Zhang, Xing Lu, Elisabeth A. C. Mills, Adam Ginsburg, Ashley T. Barnes, Pei-Ying Hsieh, Jonathan D. Henshaw, Steven N. Longmore, John Bally, Laura Colzi, Paul T. P. Ho, Maya A. Petkova, Mattia C. Sormani, N. Bijas, Alyssa Bulatek, Natalie O. Butterfield, Christoph Federrath, Simon C. O. Glover, Mark D. Gorski, **Savannah R. Gramze**, and et al. “ALMA Central molecular zone Exploration Survey (ACES) VI: ALMA Large Program Reveals a Highly Filamentary Central Molecular Zone”. In: *arXiv e-prints*, arXiv:2602.20262 (Feb. 2026), arXiv:2602.20262. 🌐 DOI: 10.48550/arXiv.2602.20262. arXiv: 2602.20262 [astro-ph.GA].

- 22 Zi-Xuan Feng, Mattia C. Sormani, Robin G. Tress, Simon C. O. Glover, Ralf S. Klessen, Jonathan Petersson, Michaela Hirschmann, Ashley T. Barnes, Cara Battersby, Marco Donati, Karl Fiteni, Jonathan D. Henshaw, Adam Ginsburg, **Savannah Gramze**, Xingchen Li, Dani R. Lipman, Steven N. Longmore, Elisabeth Mills, Maya A. Petkova, Yoshiaki Sofue, and Arianna Vasini. “Simulations of gas inflow in the Milky Way I. Stellar-Feedback-Regulated Transport from the Central Molecular Zone to the Circumnuclear disk”. In: *arXiv e-prints*, arXiv:2605.16192 (May 2026), arXiv:2605.16192. [DOI: 10.48550/arXiv.2605.16192](#). arXiv: 2605.16192 [astro-ph.GA].
- 21 Adam Ginsburg, **Savannah R. Gramze**, Matthew L. N. Ashby, Brandt A. L. Gaches, Nazar Budaiev, Miriam G. Santa-Maria, Alyssa Bulatek, A. T. Barnes, Desmond Jeff, Neal J. Evans II, and Cara D. Battersby. “The Colors of Ices: Measuring ice column density through photometry”. In: *The Open Journal of Astrophysics* 9 (June 2026). [DOI: 10.33232/001c.163469](#).
- 20 Adam Ginsburg, Daniel L. Walker, Ashley T. Barnes, Xing Lu, Álvaro Sánchez-Monge, Jaime E. Pineda, Marc W. Pound, Pei-Ying Hsieh, Katharina Immer, Qizhou Zhang, Nazar Budaiev, **Savannah R. Gramze**, and et al. “ALMA Central Molecular Zone Exploration Survey (ACES) II: 3mm continuum images”. In: *arXiv e-prints*, arXiv:2602.20240 (Feb. 2026), arXiv:2602.20240. [DOI: 10.48550/arXiv.2602.20240](#). arXiv: 2602.20240 [astro-ph.GA].
- 19 **Savannah Gramze**, Adam Ginsburg, Nazar Budaiev, Alyssa Bulatek, Theo Richardson, A. T. Barnes, Miriam G. Santa-Maria, Mattia C. Sormani, Xing Lu, Francisco Nogueras-Lara, Brandt A. L. Gaches, Cara D. Battersby, Jennifer Wallace, Daniel L. Walker, Elisabeth A. C. Mills, Michael Mattern, and Rojita Buddhacharya. “Mapping CO Ice in a Star-Forming Filament in the 3 kpc Arm with JWST”. In: *The Open Journal of Astrophysics* 9 (July 2026), p. 65431. [DOI: 10.33232/001c.165431](#).
- 18 Pei-Ying Hsieh, Daniel L. Walker, Adam Ginsburg, Ashley T. Barnes, Xing Lu, Álvaro Sánchez-Monge, **Savannah R. Gramze**, and et al. “ALMA Central molecular zone Exploration Survey (ACES) V: CS(2-1), SO(2₃₋₁-2), CH₃CHO(5_{1,4}-4_{1,3}), HC₃N(11-10), and H₄oa lines data”. In: *arXiv e-prints*, arXiv:2603.00863 (Mar. 2026), arXiv:2603.00863. [DOI: 10.48550/arXiv.2603.00863](#). arXiv: 2603.00863 [astro-ph.GA].
- 17 Dani R. Lipman, Jakub Poznanski, **Savannah R. Gramze**, Claire E. Cook, Cara Battersby, Jennifer Wallace, Pablo García, Samantha Adams, Xinyu Mai, Kai Smith, Natalie Butterfield, Sophia Kempe, Adam Ginsburg, Rojita Buddhacharya, Tomoharu Oka, Jairo Armijos-Abendaño, John Bally, Ashley T. Barnes, Nazar Budaiev, Alyssa Bulatek, Laura Colzi, Christoph Federrath, Zi-Xuan Feng, Jonathan D. Henshaw, Paul Ho, Pei-Ying Hsieh, Katharina Immer, Izaskun Jiménez-Serra, Ralf S. Klessen, Steven N. Longmore, Xing Lu, Elisabeth A. C. Mills, N. Bijas, Francisco Nogueras-Lara, Dylan M. Paré, Maya A. Petkova, Jaime E. Pineda, Marc W. Pound, Víctor M. Rivilla, Álvaro Sánchez-Monge, Miriam G. Santa-Maria, Anika Schmiedeke, Yoshiaki Sofue, Mattia C. Sormani, Howard A. Smith, Robin G. Tress, Daniel Walker, and Qizhou Zhang. “ACES VIII: A Survey of Compact, High-Velocity Features Observed in CS(2-1)”. In: *arXiv e-prints*, arXiv:2609.10472 (Sept. 2026), arXiv:2609.10472. arXiv: 2609.10472 [astro-ph.GA].
- 16 Steven N. Longmore, John Bally, Ashley T. Barnes, Cara Battersby, Laura Colzi, Adam Ginsburg, Jonathan D. Henshaw, Paul T. P. Ho, Izaskun Jiménez-Serra, J. M. Diederik Kruijsen, Elisabeth A. C. Mills, Maya A. Petkova, Mattia C. Sormani, Robin G. Tress, Daniel L. Walker, Jennifer Wallace, Emad Alkhuja, Lucia Armillotta, Nazar Budaiev, Rojita Buddhacharya, Alyssa Bulatek, Michael Burton, Natalie O. Butterfield, Laura A. Busch, Paola Caselli, Mélanie Chevance, Claire Cook, Samuel Crowe, Ana Karla Díaz-Rodríguez, Enrico DiTeodoro, Simon R. Dicker, Katarzyna M. Dutkowska, Adam Fairley, Christoph Federrath, Rubén Fedriani, Zi-Xuan Feng, Karl Fiteni, Gary Fuller, Pablo García, Javier Goicoechea, Philipp Girichidis, Simon C. O. Glover, Mark Gorski, **Savannah R. Gramze**, and et al. “ALMA Central Molecular Zone Exploration Survey (ACES) I: Overview”. In: *MNRAS*, arXiv:2602.20340 (Feb. 2026), arXiv:2602.20340. [DOI: 10.48550/arXiv.2602.20340](#). arXiv: 2602.20340 [astro-ph.GA].
- 15 Xing Lu, Daniel L. Walker, Adam Ginsburg, Ashley T. Barnes, Pei-Ying Hsieh, Alvaro Sanchez-Monge, **Savannah R. Gramze**, and et al. “ALMA Central Molecular Zone Exploration Survey (ACES)-IV. Data

of the two intermediate-width spectral windows”. In: *arXiv e-prints*, arXiv:2602.20445 (Feb. 2026), arXiv:2602.20445.  DOI: 10.48550/arXiv.2602.20445. arXiv: 2602.20445 [astro-ph.GA].

- 14 Dylan M. Paré, Zi-Xuan Feng, Yue Hu, Maya A. Petkova, Jack Sullivan, Robin G. Tress, Cara Battersby, Janik Karoly, Alex Lazarian, Dani Lipman, Xing Pan, Marco Donati, Mattia C. Sormani, John Bally, Ashley T. Barnes, Natalie O. Butterfield, Laura Colzi, Christoph Federrath, Pablo García, Adam Ginsburg, **Savannah R. Gramze**, Anika Schmiedeke, Christian Henkel, Jonathan D. Henshaw, Paul T. Ho, Pei-Ying Hsieh, Izaskun Jimenez-Serra, Ralf S. Klessen, J. M. Diederik Kruijssen, Steven N. Longmore, Xing Lu, Elisabeth A. C. Mills, Álvaro Sánchez-Monge, Daniel L. Walker, Jennifer Wallace, and Qizhou Zhang. “ACES: The Magnetic Field in Large Filaments in the Galactic Center”. In: *ApJ* 1000.1, 37 (Mar. 2026), p. 37.  DOI: 10.3847/1538-4357/ae22ce. arXiv: 2511.18029 [astro-ph.GA].
- 13 Yoshiaki Sofue, Steven N. Longmore, Daniel Walker, Adam Ginsburg, Jonathan D. Henshaw, John Bally, Ashley T. Barnes, Cara Battersby, Laura Colzi, Paul Ho, Izaskun Jimenez-Serra, J. M. Diederik Kruijssen, Elizabeth Mills, Maya A. Petkova, Mattia C. Sormani, Jen Wallace, Jairo Armijos-Abendaño, Zi-Xuan Feng, Karl Fiteni, Pablo García, **Savannah Gramze**, Christian Henkel, Pei-Ying Hsieh, Ralf S. Klessen, Francisco Nogueras-Lara, Dylan M. Paré, Victor M. Rivilla, and Álvaro Sánchez-Monge. “Rotation and stability of the circumnuclear gas disk in the Galactic Center potential by the ALMA CMZ Exploration Survey (ACES)”. In: *PASJ* 78.2 (Apr. 2026), pp. 536–555.  DOI: 10.1093/pasj/psaf159. arXiv: 2512.22751 [astro-ph.GA].
- 12 Yoshiaki Sofue, Steven N. Longmore, Daniel Walker, Adam Ginsburg, Jonathan D. Henshaw, John Bally, Ashley T. Barnes, Cara Battersby, Laura Colzi, Paul Ho, Izaskun Jimenez-serra, Elizabeth Mills, Maya A. Petkova, Mattia C. Sormani, Jennifer Wallace, Robin G. Tress, Nazar Budaiev, Rojita Buddhacharya, Christoph Federrath, Zi-xuan Feng, Pablo García, **Savannah Gramze**, Christian Henkel, Pei-ying Hsieh, Fengwei Xu, Katharina Immer, Dani Lipman, Dariusz C. Lis, Álvaro Sánchez-Monge, Xing Lu, Mark R. Morris, Francisco Nogueras-Lara, Jürgen Ott, Dylan M. Paré, Jaime E. Pineda, Victor M. Rivilla, Jairo Armijos-Abendaño, Qizhou Zhang, 6Denise Riquelme-vásquez, Howard a. Smith, Marco Donati, Q. Daniel Wang, and N. Bijas. “Electron temperature and emission measure of HII regions in the central molecular zone (CMZ) from H40 α recombination line and continuum emissions by ALMA CMZ Exploration Survey - ACES -”. In: *arXiv e-prints*, arXiv:2608.10227 (Aug. 2026), arXiv:2608.10227.  DOI: 10.48550/arXiv.2608.10227. arXiv: 2608.10227 [astro-ph.GA].
- 11 Daniel L. Walker, Adam Ginsburg, Ashley T. Barnes, Xing Lu, Pei-Ying Hsieh, Álvaro Sánchez-Monge, **Savannah R. Gramze**, and et al. “ALMA Central molecular zone Exploration Survey (ACES) III: Molecular line data reduction and HNCO and HCO⁺ data”. In: *arXiv e-prints*, arXiv:2602.20276 (Feb. 2026), arXiv:2602.20276.  DOI: 10.48550/arXiv.2602.20276. arXiv: 2602.20276 [astro-ph.GA].
- 10 Jennifer Wallace, Cara Battersby, Nazar Budaiev, H Perry Hatchfield, Ashley T. Barnes, Taehwa Yoo, Miriam G. Santa-Maria, Antonio Daley, Q. Daniel Wang, Anika Schmiedeke, Kaitlyn E. Sheriff, Jairo Armijos-Abendaño, Daniel Walker, Gwenllian Williams, Dani R. Lipman, Farideh Mazoochi, Natalie O. Butterfield, Francisco Nogueras-Lara, Yoshiaki Sofue, Ralf S. Klessen, Simon C. O. Glover, Katharina Immer, **Savannah R. Gramze**, and et al. “ACES VII. Compact Continuum Source Catalog of the Central Molecular Zone”. In: *arXiv e-prints*, arXiv:2609.00135 (Aug. 2026), arXiv:2609.00135. arXiv: 2609.00135 [astro-ph.GA].
- 9 Taehwa Yoo, Adam Ginsburg, Nazar Budaiev, Roberto Galván-Madrid, Aden Dawson, **Savannah Gramze**, Jesús Hernández, Alexandre Roman-Lopes, Carlos G. Román-Zúñiga, Joel Sanchez-Bermudez, Miriam G. Santa-Maria, Aida Wofford, and Jason E. Ybarra. “A JWST NIRCам/MIRI View of the W51A High-mass Star-forming Region”. In: *AJ* 171.4, 208 (Apr. 2026), p. 208.  DOI: 10.3847/1538-3881/ae40b7. arXiv: 2602.00229 [astro-ph.GA].
- 8 Natalie Butterfield, Larry Morgan, Ashley Barnes, Adam Ginsburg, **Savannah Gramze**, Mark Morris, Mattia Sormani, Cara Battersby, Charlie Burton, Allison Costa, Elisabeth Mills, Juergen Ott, and Michael Rugel. “Discovery of a Giant Molecular Cloud at the Midpoint of the Galactic Bar Dust Lanes:

M4.7-0.8". In: *arXiv e-prints*, arXiv:2503.14174 (Mar. 2025), arXiv:2503.14174. [DOI](#): 10.48550/arXiv.2503.14174. arXiv: 2503.14174 [astro-ph.GA].

- 7 Yoshiaki Sofue, Tomoharu Oka, Steven N. Longmore, Daniel Walker, Adam Ginsburg, Jonathan D. Henshaw, John Bally, Ashley T. Barnes, Cara Battersby, Laura Colzi, Paul Ho, Izaskun Jimenez-Serra, J. M. Diederik Kruijssen, Elizabeth Mills, Maya A. Petkova, Mattia C. Sormani, Jennifer Wallace, Jairo Armijos-Abendaño, Katarzyna M. Dutkowska, Rei Enokiya, Pablo García, **Savannah Gramze**, Christian Henkel, Pei-Ying Hsieh, Yue Hu, Katharina Immer, Yuhei Iwata, Janik Karoly, Ralf S. Klessen, Kotaro Kohno, Mark R. Krumholz, Dani Lipman, Mark R. Morris, Francisco Nogueras-Lara, Jaime E. Pineda, Sergio Martín, Miguel Angel Requena-Torres, Víctor M. Rivilla, Denise Riquelme-Vásquez, Álvaro Sánchez-Monge, Miriam G. Santa-Maria, Howard A. Smith, Volker Tolls, and Q. Daniel Wang. "Circumnuclear eccentric gas flow in the Galactic Center revealed by ALMA CMZ Exploration Survey (ACES)". In: *PASJ* 77.4 (Aug. 2025), pp. L55–L62. [DOI](#): 10.1093/pasj/psaf072. arXiv: 2506.11553 [astro-ph.GA].
- 6 Adam Ginsburg, John Bally, Ashley T. Barnes, Cara Battersby, Nazar Budaiev, Natalie O. Butterfield, Paola Caselli, Laura Colzi, Katarzyna M. Dutkowska, Pablo García, **Savannah Gramze**, Jonathan D. Henshaw, Yue Hu, Desmond Jeff, Izaskun Jiménez-Serra, Jens Kauffmann, Ralf S. Klessen, Emily M. Levesque, Steven N. Longmore, Xing Lu, Elisabeth A. C. Mills, Mark R. Morris, Francisco Nogueras-Lara, Tomoharu Oka, Jaime E. Pineda, Thushara G. S. Pillai, Víctor M. Rivilla, Álvaro Sánchez-Monge, Miriam G. Santa-Maria, Howard A. Smith, Yoshiaki Sofue, Mattia C. Sormani, Grant R. Tremblay, Gijs Vermariën, Alexey Vikhlinin, Serena Viti, Dan Walker, Q. Daniel Wang, Fengwei Xu, and Qizhou Zhang. "A Broad Line-width, Compact, Millimeter-bright Molecular Emission Line Source near the Galactic Center". In: *ApJL* 968.1, L11 (June 2024), p. L11. [DOI](#): 10.3847/2041-8213/ad47fa. arXiv: 2404.07808 [astro-ph.GA].
- 5 Andy Nilipour, Juergen Ott, David S. Meier, Brian Svoboda, Mattia C. Sormani, Adam Ginsburg, **Savannah R. Gramze**, Natalie O. Butterfield, and Ralf S. Klessen. "Turbulent Pressure Heats Gas and Suppresses Star Formation in Galactic Bar Molecular Clouds". In: *ApJ* 977.1, 37 (Dec. 2024), p. 37. [DOI](#): 10.3847/1538-4357/ad8631. arXiv: 2410.09258 [astro-ph.GA].
- 4 Kelly N. Sanderson, Anna D. Kapińska, Moire K. M. Prescott, Audrey F. Dijeu, **Savannah R. Gramze**, Jacqueline Hernandez, and Katherine T. Kauma. "Signatures of Active Galactic Nucleus Feedback Modes: A Green Bean Galaxy with 150 kpc Jet-induced Radio Emission". In: *ApJ* 971.1, 20 (Aug. 2024), p. 20. [DOI](#): 10.3847/1538-4357/ad50a8. arXiv: 2405.19558 [astro-ph.GA].
- 3 Adam Ginsburg, Ashley T. Barnes, Cara D. Battersby, Alyssa Bulatek, **Savannah Gramze**, Jonathan D. Henshaw, Desmond Jeff, Xing Lu, E. A. C. Mills, and Daniel L. Walker. "JWST Reveals Widespread CO Ice and Gas Absorption in the Galactic Center Cloud Go.253+0.016". In: *ApJ* 959.1, 36 (Dec. 2023), p. 36. [DOI](#): 10.3847/1538-4357/acfc34. arXiv: 2308.16050 [astro-ph.GA].
- 2 **Savannah R. Gramze**, Adam Ginsburg, David S. Meier, Juergen Ott, Yancy Shirley, Mattia C. Sormani, and Brian E. Svoboda. "Evidence of a Cloud–Cloud Collision from Overshooting Gas in the Galactic Center". In: *ApJ* 959.2, 93 (Dec. 2023), p. 93. [DOI](#): 10.3847/1538-4357/ad01be. arXiv: 2309.16403 [astro-ph.GA].
- 1 Mihailo M. Martinović, Kristopher G. Klein, **Savannah R. Gramze**, Himanshu Jain, Milan Maksimović, Arnaud Zaslavsky, Chadi Salem, Ioannis Zouganelis, and Zoran Simić. "Solar Wind Electron Parameters Determination on Wind Spacecraft Using Quasi-Thermal Noise Spectroscopy". In: *Journal of Geophysical Research (Space Physics)* 125.8, e28113 (Aug. 2020), e28113. [DOI](#): 10.1029/2020JA028113.

Skills

Coding	Python, Git, High Performance Computing, bash, UNIX, Java, $\text{\LaTeX}$, Creating and publishing python packages (e.g. astropixel), Debugging code, Software testing, Code documentation, Parallel programming, Jupyter notebook tutorial writing
Imaging	Python, CASA
Packages	matplotlib, numpy, astropy, jwst-pipeline, astroquery, regions, spectral-cube, reproject, specutils, photutils, despotic, dust_extinction, radio_beam, sklearn
Programs	VSCode, Anaconda, Google Suite, Obsidian, Microsoft Office 360, Slack
Web Dev	HTML, CSS
Misc.	Academic research, teaching, $\text{\LaTeX}$ typesetting and publishing.

Presentations

July 8, 2026	Colloquium at the University of Manchester in Manchester, United Kingdom
May 28, 2026	Seminar at the University of Insubria in Como, Italy
May 27, 2026	Seminar at the University of Milano Statale in Milan, Italy
May 26, 2026	Seminar at the University of Milano-Bicocca in Milan, Italy
May 2026	Traversing the Galactic Center in Time and Space in Brno, Czech Republic
February 27, 2026	Talk at Kansas University virtual
October 2025	Perspectives in Star Formation in Shanghai, China
May 2025	Inter+Stellar in Baltimore, Maryland at the Space Telescope Science Institute
August 2024	ACES Workshop in Boston, Massachusetts
June 2024	ACES Workshop in Garching, Germany
November 2023	JWST Data Products Workshop in Baltimore, Maryland at the Space Telescope Science Institute
April 2023	Galactic Center Workshop in Granada, Spain
June 2022	From Stars to Galaxies II in Gothenburg, Sweden
January 2021	237th AAS Meeting Poster virtual
August 2020	NRAO Student Talk virtual
January 2020	235th AAS Meeting Poster in Honolulu, Hawaii
August 2019	NRAO Student Talk in Socorro, New Mexico at the Array Operations Center

Teaching Experience

2021 – 2022	Instructor. AST 1022L Astronomy Laboratory, College of Liberal Arts and Sciences, University of Florida.
-------------	---

Training

July 2024	Code/Astro Workshop in Evanston, Illinois
November 2023	2nd IAA-CSIC Severo Ochoa Advanced School on Star Formation in Granada, Spain

Service

NASA Executive Secretary

Referee for Journal

References

Prof. Adam Ginsburg	University of Florida in Gainesville, Florida adamginsburg@ufl.edu
Prof. Mattia Sormani	University of Insubria in Como, Italy mattiacarlo.sormani@gmail.com
Prof. John Bally	University of Colorado in Boulder, Colorado john.bally@colorado.edu